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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/213,748	12/17/1998	EDWARD G. CALLWAY	0100.01319	6443

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EXAMINER

HARRISON, CHANTE E.

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/21/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

B

Office Action Summary

Application No.

09/213,748

Applicant(s)

CALLWAY ET AL.

Examiner

Chante Harrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 31-37 is/are allowed.
- 6) ☐ Claim(s) 2-30 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is responsive to communications: Request for Reconsideration, filed on 3/3/03.
2. Claims 2-38 are pending in the case. Claims 4, 20, 30, 31 and 38 are independent claims. Claims 31-37 are allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-11 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto, U.S. Patent 5,912,710, 6/1999, 348/445.

As per independent claim 4, Fujimoto discloses a video scaler to receive and scale video based on a ratio between the input format and the output format (FIG. 1 "107"), a graphics scaler to receive and scale graphics based on a ratio between the input format and the output format (FIG. 1 "106"), combining the video and graphics to produce video graphics output (FIG. 1 "108"; FIG. 6; FIG. 8 "203"), a first memory (FIG. 1 "100g") having graphics data and a second memory (FIG. 1 "100b") having video data

and the two memories coupled to their corresponding scalers (FIG.1). It would have been obvious to one of skill in the art to use the disclosure of Fujimoto because he teaches storing the separate video and graphics data together on media accessible by main memory, which individually retrieves both graphics and video data and forwards the individual data through respective processing channels to be scaled (FIG. 1; col. 11, ll. 15 et seq.).

As per dependent claim 3, Fujimoto discloses the merging block receiving control data used to produce the video graphics output (FIG. 8 "201 & 203").

As per dependent claim 5, Fujimoto fails to disclose the first and second memory blocks included in a frame buffer of a video graphics integrated circuit. However it would have been obvious to use his disclosure because he teaches providing the data together on media accessible by the scaling and merging process (FIGS. 1 & 9).

As per dependent claim 6, Fujimoto discloses a video controller coupled to the video scaler (FIG. 1), a graphics controller coupled to the graphics scaler (FIG. 1) and the video and data controller are synchronized (FIG. 1; col. 10-11, ll. 60 et seq.).

As per dependent claim 7, Fujimoto discloses an alpha blend operation (FIG. 1 "108").

As per dependent claim 8, Fujimoto discloses a digital to analog converter for the video graphics (col. 10, ll. 35 et seq.).

As per dependent claim 9, Fujimoto discloses a display driver (FIG. 18 "18c") formatting the output (col. 6, ll. 40 et seq.; col. 10, ll. 10-25, 60 et seq.).

As per dependent claim 10, Fujimoto discloses a driver coupled to a video scaler (FIG. 18 "18c").

As per dependent claim 11, Fujimoto discloses a driver coupled to a graphics scaler (FIG. 18 "18c").

As per dependent claim 14, Fujimoto discloses a plurality of graphics scalars (Fig. 19).

As per dependent claim 15, Fujimoto discloses the merging block configuring a pixel rate of the video output stream to produce a preferred video scaling ratio (col. 2, ll. 46-64; col. 3, ll. 18-35).

As per dependent claim 16, Fujimoto discloses the merging block configuring a pixel rate of the video output stream to produce a preferred graphics scaling ratio (col. 2, ll. 46-64; col. 3, ll. 18-35).

As per dependent claim 17, Fujimoto discloses a video decompression block (FIG. 1 "102").

As per dependent claim 18, Fujimoto discloses a graphics decompression block (FIGS. 1 & 17; col. 15, ll. 10 et seq.).

As per dependent claim 19, Fujimoto discloses the video stream is a decoded MPEG data stream (FIG. 1 "102").

Claims 2, 12-13, 20-30 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto, U.S. Patent 5,912,710, 6/1999, 348/445 and further in view of Alexander MacInnis et al., U.S. Patent 6,189,064, 2/2001.

As per dependent claims 2 and 21, Fujimoto discloses a controller (FIG. 8 "122") providing data to the video and graphics scalers (FIG. 8) and allocating memory to the first and second blocks of memory, but fails to specifically disclose allocating memory based upon memory needs of the data stream. MacInnis teaches allocating memory based upon needs of the data stream (col. 4, ll. 1-8). Fujimoto teaches a CPU controlling operation of a DVD that provides video and graphics data to a system that performs an operation on the data as defined by the application program and outputs the data for display (Fig. 1). MacInnis teaches controlling the amount of memory based

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on the desired system performance (col. 4, ll. 4-8). It would have been obvious to one of skill in the art to include MacInnis' teaching of memory allocation based upon need in the disclosure of Fujimoto because Fujimoto provides memory read and write transactions from the CPU (col. 10, ll. 47-57), which affect system performance.

As per independent claim 20, Fujimoto discloses a video scaler to receive and scale video based on a ratio between the input format and the output format (FIG. 1 "107"), a graphics scaler to receive and scale graphics based on a ratio between the input format and the output format (FIG. 1 "106"), combining the video and graphics to produce video graphics output (FIG. 1 "108"; FIG. 6; FIG. 8 "203"), allocating a first block of memory for storing the video data stream (FIG. 1 '100B'), allocating a second block of memory for storing the graphics data stream (FIG. 1 '100G'). Fujimoto fails to specifically disclose allocating memory based upon memory needs of the data stream. MacInnis teaches allocating memory based upon needs of the data stream (col. 4, ll. 1-8). Fujimoto teaches a CPU controlling operation of a DVD that provides video and graphics data to a system that performs an operation on the data as defined by the application program and outputs the data for display (Fig. 1). MacInnis teaches controlling the amount of memory based on the desired system performance (col. 4, ll. 4-8). It would have been obvious to one of skill in the art to include MacInnis' teaching of memory allocation based upon need in the disclosure of Fujimoto because Fujimoto provides memory read and write transactions from the CPU (col. 10, ll. 47-57), which affect system performance.

As per dependent claim 22, Fujimoto in view of MacInnis discloses the merging block receiving control data used to produce the video graphics output (FIG. 8 "201 & 203").

As per dependent claim 23, Fujimoto in view of MacInnis discloses a digital to analog converter for the video graphics (col. 10, ll. 35 et seq.).

As per dependent claims 13 and 24, Fujimoto fails to specifically disclose a video flicker removal block, which MacInnis discloses (Fig. 31; col. 1, ll. 54-60; col. 8, ll. 12-30; col. 9-10, ll. 67-5). Fujimoto teaches a horizontal filter which executes a scaling operation (col. 15, ll. 30-50). MacInnis teaches a filtering block that performs horizontal or vertical scaling and anti-flutter filtering. It would have been obvious to one of skill in the art to include MacInnis' flicker removal block (i.e. antflutter filter) in the disclosure Fujimoto because Fujimoto teaches the filter integrating and summing data to produce output (col. 15, ll. 30-50).

As per dependent claims 12 and 25, Fujimoto fails to specifically disclose a graphics flicker removal block, which MacInnis discloses (Fig. 31; col. 1, ll. 54-60; col. 8, ll. 12-30; col. 9-10, ll. 67-5). The rationale applied in the rejection of claim 24 applies herein.

As per dependent claim 26, Fujimoto in view of MacInnis discloses scaling the video based on a first format and a plurality of selected formats (FIG. 1 "107"; col. 6, ll. 45-48, 54-58).

As per dependent claim 27, Fujimoto in view of MacInnis discloses scaling the graphics based on a first format and a plurality of selected formats (FIG. 1 "106"; col. 6, ll. 45-48, 54-58).

As per dependent claim 28, Fujimoto in view of MacInnis discloses a video decompression block (FIG. 1 "102").

As per dependent claim 29, Fujimoto in view of MacInnis discloses a graphics decompression block (FIGS. 1 & 17; col. 15, ll. 10 et seq.).

As per independent claim 30, Fujimoto discloses a circuit (FIG.S. 1, 8 & 9) for implementing the method of claim 20. Therefore the rationale as applied in the rejection of independent claim 20 applies herein.

As per independent claim 38, Fujimoto discloses a system (Fig. 1) having memory maintaining video having a first format and graphics data having a second format (Fig. 1 "100"), but fails to disclose the memory allocated to the video and the

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graphics based on the needs of each. The rationale as applied to independent claim 20 applies herein.

Allowable Subject Matter

1. Claims 31-37 are allowed.

Response to Arguments

2. Applicant's arguments filed 3/3/03 with respect to claim 4 have been fully considered but they are not persuasive.

Applicant argues Fujimoto does not teach a single memory coupled to video and graphic scalers and that the DVD of Fujimoto is not memory.

Fujimoto discloses reading data from a DVD medium, which stores video and graphics data in respective memory space. Fujimoto discloses separate memory blocks, which separately transmits graphic data to VRAM and video data to a decoding block. Each of the decoding and memory blocks is coupled to a graphic/video mixer block that includes independent video and graphics scalers. Thus, Fujimoto discloses the DVD medium operably coupled to a system, which provides merged and scaled output to a display system (Fig. 1). Additionally, the DVD of Fujimoto is memory as it is disclosed as an external storage device for storing and retrieving data (Microsoft Press Computer Dictionary, 1997).

Applicant argues claims 3, 5-11 and 13-19 are allowable in view of the arguments set forth for claim 4.

The rejection of dependent claims 3, 5-11 and 14-19 is maintained.

3. Applicant's arguments, see pp. 8-9 and 12-17, filed 3/3/03, with respect to the rejection(s) of claim(s) 2, 12-13, 20-30 and 38 under USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of MacInnis, which discloses a system having a unified memory architecture, wherein the system processes and scales graphics data including video and text.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Chante Harrison** whose telephone number is **(703) 305-3937**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

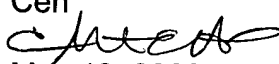
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ceh

May 13, 2003